

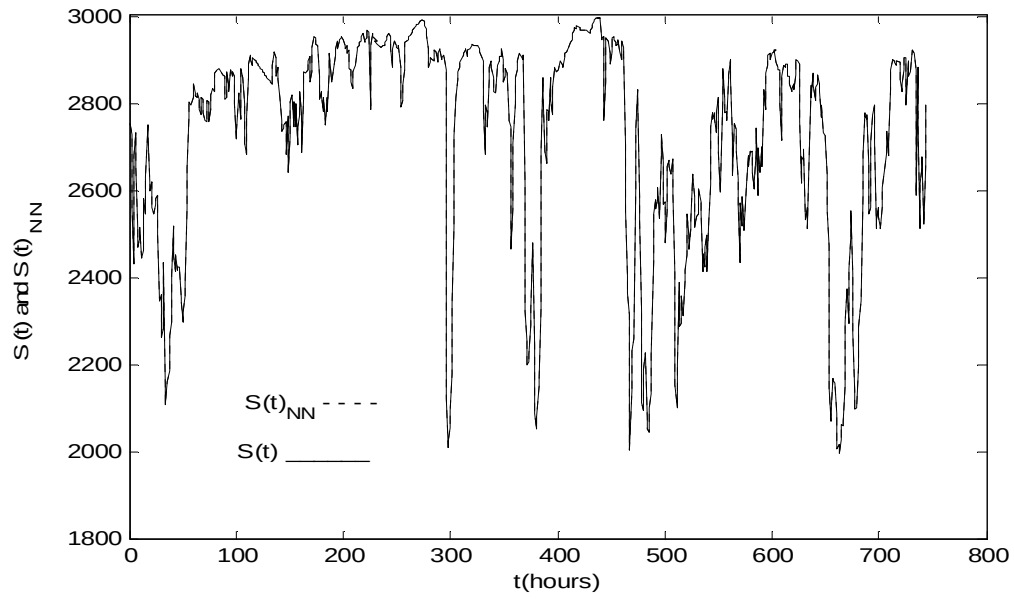


Fig. 1, GMS-5 observation time series $S(t)$ in Wuhan in July 1998 (solid line), and its approximation time series $S(t)_{NN}$ by RBFN (dashed line). The time t ranges from 1 July to 31 July with 744 hours.

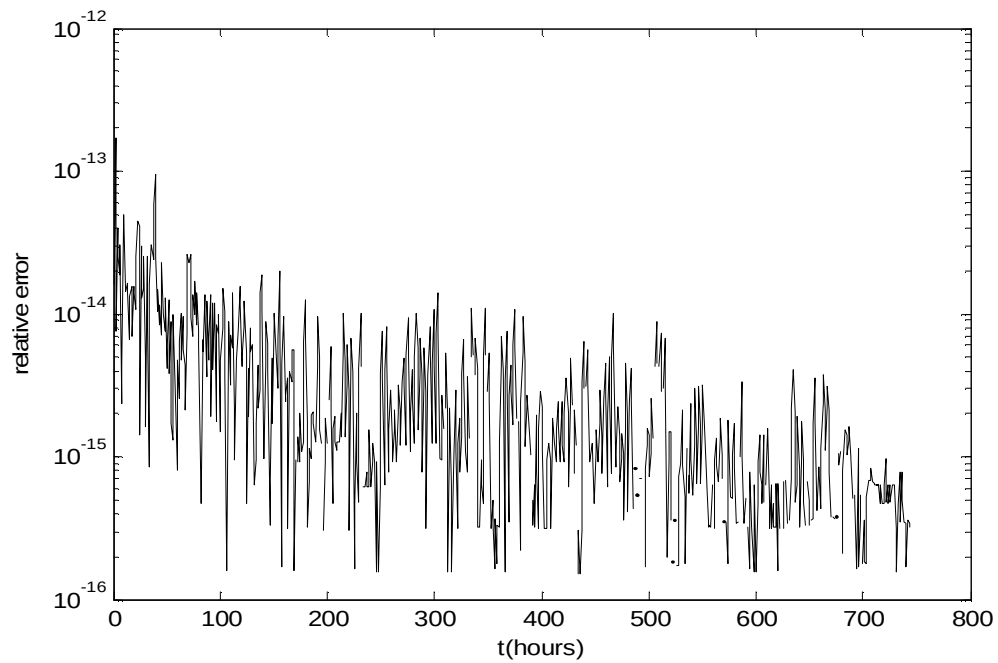


Fig. 2 The relative error of the approximation of RBFN to the signal of the GMS-5 observation time series $S(t)$ changes with time t .

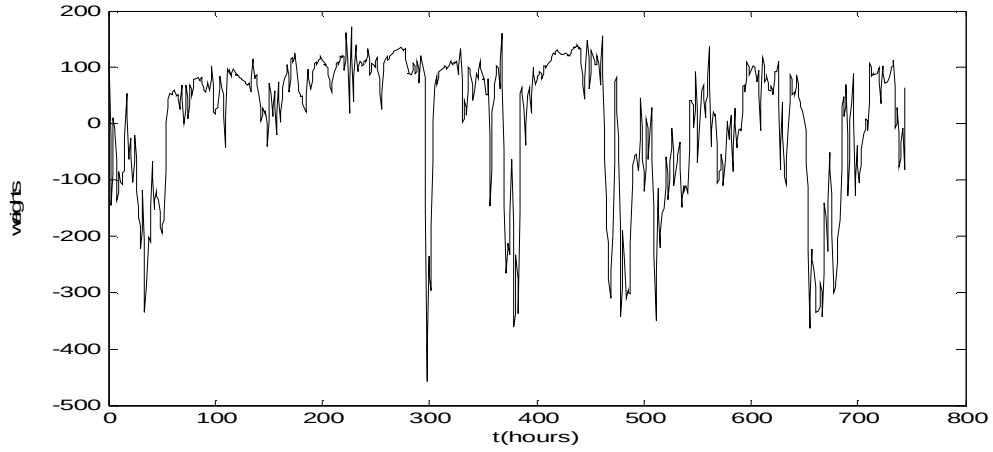


Fig. 3, The weights of the signal $S(t)_{NN}$ approximated by RBFN to the time series $S(t)$ change with time t . Suppose $\delta = 0$.

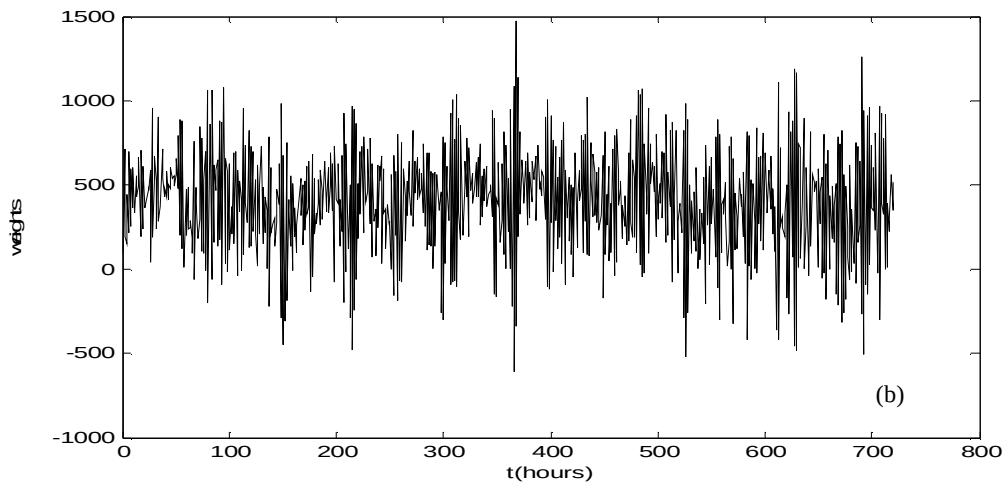
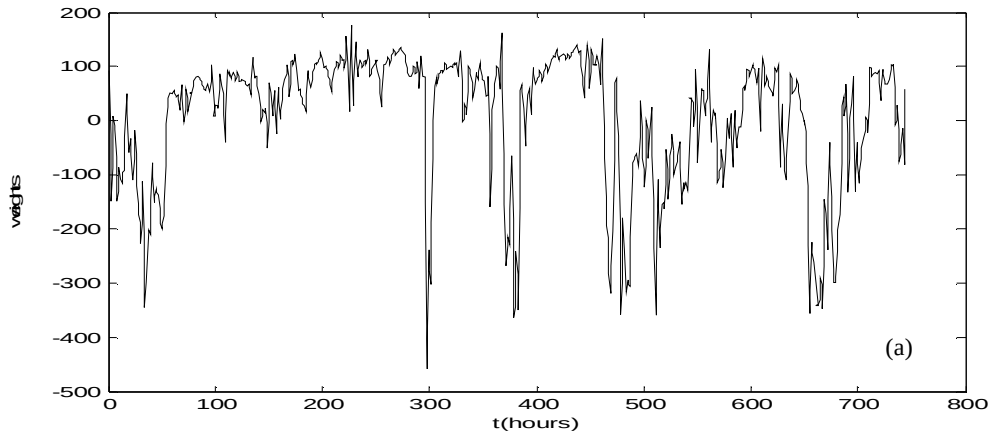


Fig. 4, The effects of noise on the weight time series of $S(t)_{NN}$ with with (a) $\delta = 0.01$ and (b) $\delta = 0.1$, respectively. For saving the space, the figure for δ being 0.05 is omitted.

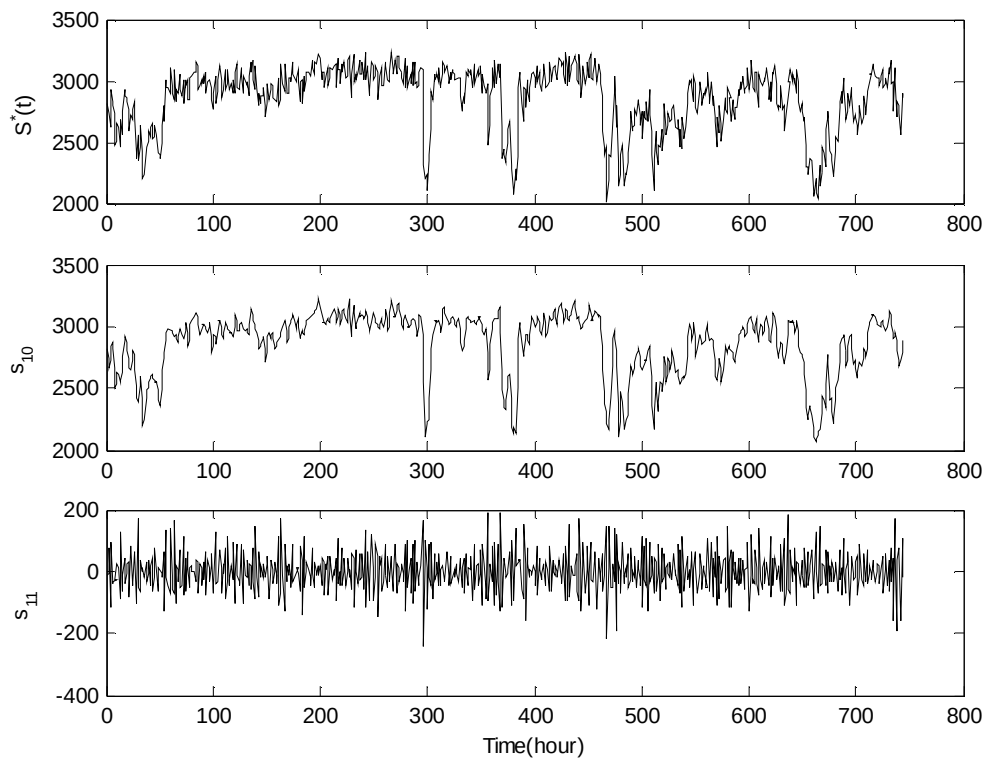


Fig. 5, The time series $S^*(t)$ and the two elements, s_{10} and s_{11} , in the DWPT decomposition with level $j = 1$ for $S^*(t)$.

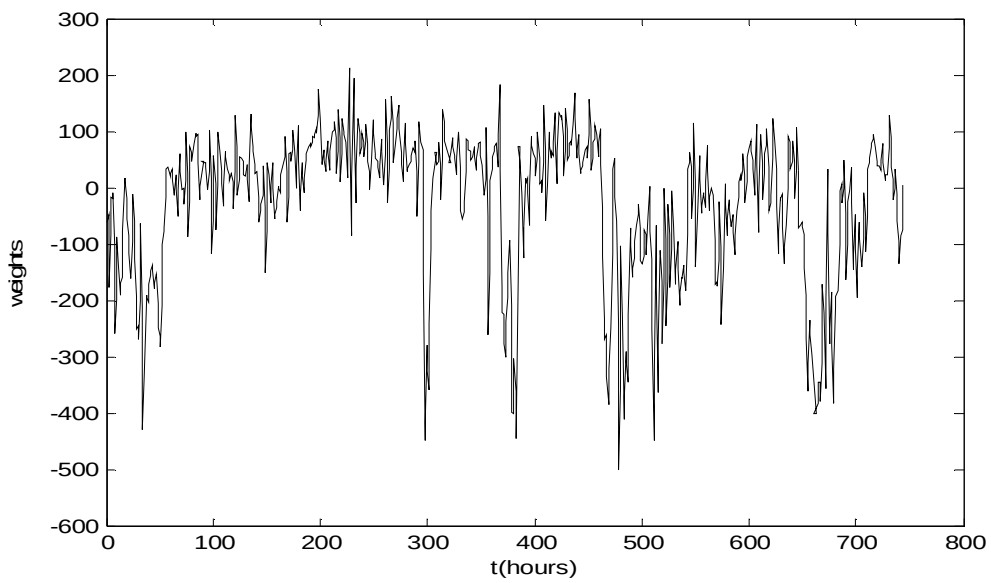


Fig. 6, The effects of noise on the weight time series of s_{10NN} with the parameter $\delta = 0.1$.